

CLAIMS

WHAT IS CLAIMED IS:

1. A file management system, comprising:

a proxy file system for managing a plurality of proxy files, wherein the plurality of proxy files are associated with counterpart data files in a shared storage and include information for accessing the counterpart data files from the shared storage; and

a controller for controlling access by a plurality of clients to the counterpart data files in the shared storage using the proxy file system.

2. The system of claim 1, wherein the controller is configured to provide the clients with access to the counterpart data files in the shared storage using the access information included in the proxy files.

3. The system of claim 2, wherein the controller is configured to:

recognize attempts by the clients to access the counterpart data files in the shared storage;

retrieve from the proxy files the information for accessing the counterpart data files from the shared storage in response to the access attempts; and

provide the clients with access to the counterpart data files in the shared storage using the access information retrieved from the proxy files.

4. The system of claim 1, wherein the shared storage comprises a port to receive access via a network from the plurality of clients.

5. The system of claim 1, wherein the proxy file system comprises a non-sharable file system running on a local disk coupled to the controller.

6. The system of claim 1, wherein the proxy file system comprises at least one module to facilitate at least one of the following functions: security, locking, file sharing, and change notifications.

7. The system of claim 1, wherein the proxy file system is smaller in size than the shared storage.

8. The system of claim 1, wherein the controller comprises a server.

9. The system of claim 1, wherein the controller comprises:
an allocator module for allocating and de-allocating portions of the shared storage to the counterpart data files; and
a network interface module for facilitating communications with the plurality of clients.

10. The system of claim 9, wherein the allocator module comprises program code for managing a plurality of allocation units.

11. The system of claim 10, wherein the allocation units indicate locations of portions of the shared storage allocated to information in the counterpart data files.

12. The system of claim 1, wherein the information for accessing the counterpart data files comprises information indicating locations of the counterpart files on the shared storage.

13. The system of claim 1, wherein the plurality of clients include software for communicating with the controller and the shared storage.

14. The system of claim 1, further comprising a secondary controller configured to mirror the controller and replace the controller if the controller is disabled.

15. The system of claim 14, further comprising a secondary proxy file system coupled to the secondary controller.

16. A file management method, comprising:

managing a plurality of proxy files, wherein the plurality of proxy files are associated with counterpart data files in a shared storage and include information for accessing the counterpart data files from the shared storage; and

controlling access by a plurality of clients to the counterpart data files in the shared storage via the proxy files.

17. The method of claim 16, wherein controlling access comprises providing the clients with access to the counterpart data files in the shared storage using the access information included in the proxy files.

18. The system of claim 17, wherein providing the clients with access to the counterpart data files comprises providing the clients with information indicating locations of the counterpart files on the shared storage.

19. The method of claim 16, wherein controlling access to the counterpart data files comprises:

recognizing attempts by the clients to access the counterpart data files in the shared storage;

retrieving from the proxy files the information for accessing the counterpart data files from the shared storage in response to the access attempts; and

providing the clients with access to the counterpart data files in the shared storage using the information retrieved from the proxy files.

20. In a system having a controller serving clients and a shared storage controlling data files, a method for managing information, comprising:

- recognizing by the controller an attempt by a client to access a data file in the shared storage;
- accessing a proxy file corresponding to the data file in response to the access attempt;
- retrieving from the proxy file information for accessing the data file from the shared storage; and
- providing the client with access to the data file in the shared storage using the retrieved access information.

21. The method of claim 20, wherein recognizing the attempt to access a data file comprises receiving by the controller a request to access the data file.

22. The method of claim 20, wherein accessing a proxy file comprises accessing the proxy file from a local disk coupled to the controller.

23. The method of claim 20, wherein retrieving information for accessing comprises reading from the proxy file information indicating a location of the data file in the shared storage.

24. The method of claim 20, wherein providing access to the data file comprises providing the client with information indicating a location of the data file in the shared storage.

25. The method of claim 20, wherein providing access to the data file comprises providing the client with information indicating a manner in which to open the data file in the shared storage.

26. A method of reading information from a data file in a shared storage, comprising:

receiving by a controller a request from a client to read from the data file in the shared storage;

obtaining by the controller information for reading the data file from a proxy file corresponding to the data file in response to the request; and

providing the information obtained from the proxy file to the client, wherein the information from the proxy file enables the client to read the data file from the shared storage.

27. The method of claim 26, wherein obtaining information for reading the data file includes obtaining a location of a portion of the shared storage allocated to the data file.

28. The method of claim 26, wherein obtaining information for reading the data file includes obtaining information indicating a manner in which to read the data file from the shared storage.

29. The method of claim 26, wherein receiving a request from a client includes receiving the request over a network interposed between the client and the controller.

30. The method of claim 26, wherein obtaining information for reading the data file includes obtaining the information for reading the data file in the shared storage from a proxy file corresponding to the data file located in a storage directly coupled to the controller.

31. A method of writing information to a data file in a shared storage, comprising:

receiving by a controller a request from a client to write information to a data file in the shared storage;

acquiring by the controller an available portion of the shared storage in response to the request; and

inserting information identifying the acquired portion of the shared storage into a proxy file corresponding to the data file, wherein the proxy file is located on a storage directly coupled to the controller.

32. The method of claim 31, wherein receiving a request from a client comprises receiving the request over a network interposed between the client and the controller.

33. The method of claim 31, wherein acquiring the available portion of the shared storage comprises identifying the available portion.

34. The method of claim 33, wherein identifying the available portion comprises examining a list of allocation unit numbers.

35. The method of claim 31, further comprising allocating the acquired portion of the shared storage to the data file.

36. The method of claim 31, wherein inserting information comprises writing allocation unit numbers into the proxy file.

37. The method of claim 31, further comprising managing the proxy file by a non-sharable proxy file system.

38. The method of claim 37, wherein managing the proxy file comprises managing the proxy file by a non-sharable proxy file system running on a local disk directly coupled to the controller.

39. A file management system, comprising:

means for storing a plurality data files, the storing means accessible to a plurality of clients;

means for managing a plurality of proxy files, wherein each of the plurality of proxy files is associated with a counterpart data file from among the plurality of data files in the storing means and includes information for accessing the counterpart data file; and

means for controlling access by the plurality of clients to the plurality of data files using the managing means.

40. The system of claim 39, further comprising secondary controlling means for replacing the controlling means if the controlling means is disabled.

41. The system of claim 40, further comprising secondary managing means, for managing the plurality of proxy files, coupled to the secondary controlling means.

42. A computer-readable medium containing instructions for controlling a computer system coupled to a network to perform a method, the computer system having a processor for executing the instructions, the method comprising:

recognizing an attempt by a client to access a data file in a shared storage;

accessing a proxy file corresponding to the data file in response to the access attempt;

retrieving from the proxy file information for accessing the data file in the shared storage; and

providing the client with access to the data file in the shared storage using the retrieved access information.